

WHAT IS CLAIMED IS:

1. A fabrication method for a biochip, comprising:  
providing a micro-carrier, wherein the micro-carrier is already labeled with an identification code;  
5 performing a surface modification procedure to modify a surface of the micro-carrier to an aminated surface; and  
performing a solid-phase peptide synthesis step to synthesize a peptide with a specific amino acid sequence on the aminated surface of the micro-carrier.
- 10 2. The method of claim 1, wherein the surface modification procedure comprises:  
covering the surface of micro-carrier with a silicon dioxide layer; and  
using 3-aminopropyltriethoxysilane to modify the silicon dioxide surface of the micro-carrier to the aminated surface.
- 15 3. The method of claim 1, wherein a material for forming the micro-carrier is a high molecular weight material.
4. The method of claim 1, wherein a material for forming the micro-carrier comprises polyethylene terephthalate (PET).
- 20 5. The method of claim 1, wherein the identification code on the micro-carrier is a bar code or a number code.
6. An application of the biochip as claimed in claim 1, comprising:

placing the micro-carrier with the peptide of the specific amino acid sequence in a reaction flask;

adding a test-pending material into the reaction flask, wherein the test-pending material is already labeled with a dye;

5        attaching the peptide of the specific amino acid sequence to the test-pending material to form a dyed microchip when there is an interaction between the test-pending material and the peptide with the specific amino acid sequence; and

using an identification system to identify the dyed micro-carrier and reading the identification code on the micro-carrier to analyze the test-pending material that  
10       corresponds to the peptide with the specific amino acid sequence.

7. The application of claim 6, wherein the identification system comprises a microscope and an image analysis device.

15       8. A fabrication method for a biochip, comprising:

providing a micro-carrier, wherein the micro-carrier is already labeled with an identification code;

performing a surface modification procedure to modify a property of a surface of the micro-carrier to an aminated surface; and

20       immobilizing an antibody (or antigen) on the aminated surface of the micro-carrier.

9. The method of claim 8, wherein the surface modification procedure further comprises:

covering a silicon dioxide layer on the surface of the micro-carrier; and  
using 3-aminopropyltriethoxysilane to modify the silicon dioxide surface of the  
micro-carrier to the aminated surface.

5           10. The method of claim 8, wherein a material in forming the micro-carrier is a  
high molecular weight material.

11. The method of claim 8, wherein a material in forming the micro-carrier  
comprises polyethylene terephthalate (PET).

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12. The method of claim 8, wherein the identification code on the micro-carrier  
includes a bar code or a number code.

13. An application of the biochip as claimed in claim 8, comprising:

15           placing the micro-carrier with the antibody (or antigen) immobilized thereon in a  
reaction flask;

          adding a test-pending material into the reaction flask, wherein the test-pending  
material is labeled with a dye;

          bonding the test-pending material to the antibody (or antigen) to form a dyed  
20   microchip when there is an interaction between the test-pending material and the  
antibody (or antigen); and

          using an identification system to identify the dyed microchip and reading the  
identification code on the microchip to analyze the test-pending material that corresponds  
to the antibody (or antigen).

14. The application of claim 13, wherein if the antibody is immobilized on the micro-carrier, the test-pending material that interacts with the antibody is an antigen.

5           15. The method of claim 13, wherein if the antigen is immobilized on the micro-carrier, the test-pending material that interacts with the antigen is an antibody.

16. The method of claim 13, wherein the identification system comprises a microscope and an image analysis apparatus.

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